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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STITES & HARBISON PLLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA, VA 22314

EXAMINER

EDWARDS, LAURA ESTELLE

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,365

Applicant(s)

SANTANDREA ET AL.

Examiner

Laura Edwards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 072903
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

Claim Rejections - 35 USC § 112

Claims 1-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, Applicants recite equipment for preparing for electrostatic painting and then define the equipment after the term “characterized” in terms of the conveyor intertwined with references to the electrostatic painting. Therefore, it is unclear whether Applicants are merely claiming the conveyor or the combination of an electrostatic sprayer device in combination with the conveyor. Clarification is necessary.

In claim 1, line 5, “the panels” lack antecedent basis. It is noted that in line 1, Applicants refer to “articles”. For consistency purposes, it is suggested that a single term be used throughout the claims but not both (articles and panels).

In claim 1, line 10, “the powdered paints” lack antecedent basis.

In claim 3, line 1, “the lower run” lacks antecedent basis.

In claim 3, it is unclear what is meant by the phrase, “the conveyor (T) is cleaned not only by conventional methods”. What is deemed conventional methods?

In claim 3, line 4, Applicants recite “suction means being provided opposite these means” and it is unclear what specific structure is being referred to?

In claim 6, line 1, for consistency purposes, it is suggested that “the electrode” be changed to “the one or more electrodes”.

In claim 6, line 3, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since

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the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, the claim recites the broad recitation 0.5 to 4 times, and the claim also recites "preferably greater than 1 to 2 times" which is the narrower statement of the range/limitation.

For claim 7, line 1, see the response to claim 6, line 1.

For claim 7, line 3, Applicants improperly recite a broad range or limitation with a narrow range or limitation. In the present instance, the claim recites the broad recitation 5 to 20 times, and the claim also recites "preferably not more than approximately 10 times" which is the narrower statement of the range/limitation.

For claim 8, line 3, Applicants improperly recite a broad range or limitation with a narrow range or limitation. In the present instance, the claim recites the broad recitation 5 to 20 times, and the claim also recites "preferably not less than approximately 10 times" which is the narrower statement of the range/limitation.

In claim 9, line 1, for consistency purposes, it is suggested that "the electrodes" be changed to "the one or more electrodes".

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In claim 9, line 7, "the power supply collectors" lack antecedent basis.

In claim 9, line 9, "the electrical generator" lacks antecedent basis.

For claim 12, line 1, see the response to claim 9, line 1.

In claim 12, lines 5-6, "the painting unit or units" lack antecedent basis.

In claim 12, line 6, "the electrical generator" lacks antecedent basis.

For claims 13-15, line 1, see the response above to claim 9, line 1.

For claim 17, line 2, see the response above to claim 9, line 1.

In claim 17, line 3, it is unclear what is meant by "collectors (Y) of the sliding contact or other suitable type". What other type is suitable?

For claim 18, line 2, see the response above to claim 9, line 1.

In claim 18, line 3, Applicants refer to "a switching unit" but this unit is referred to in claim 12 so it appears that the claim should refer to --said switching unit--.

In claim 18, line 6, "the paint chamber" lacks antecedent basis.

In claim 19, line 1, "the belt conveyor" lacks antecedent basis.

In claim 19, line 3, Applicants improperly recite a broad range or limitation with a narrow range or limitation. In the present instance, the claim recites the broad recitation 0.5 to 3 mm, and the claim also recites "for example approximately 0.8mm" which is the narrower statement of the range/limitation.

In claim 20, page 19, lines 3-4, it is unclear what is meant by the phrase, "particularly suitable for cleaning with mechanical and pneumatic means which operate according to the prior art on the return run of the belt conveyor". According to the prior art? Also, "the return run" lacks antecedent basis.

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In claim 22, line 1, “the upper run” lacks antecedent basis.

In claim 22, line 2, “the frame” lacks antecedent basis.

In claim 22, line 3, “the machine” lacks antecedent basis.

In claim 22, line 3, it is unclear what structure is “made, for example, from polypropylene”.

In claim 22, line 4, Applicants refer to an additional term “MDF” and for consistency purposes, Applicants should use one single term throughout the claims (i.e., either articles or panels or MDF).

For claim 23, line 1, see the response above to claim 9, line 1.

In claim 23, line 7, “the painting cycle” lacks antecedent basis.

For claim 24, line 1, see the response above to claim 9, line 1.

In claim 24, line 2, “the transmission system” lacks antecedent basis.

In claim 24, line 3, “the painting machine” lacks antecedent basis.

For claim 25, line 3, see the response above to claim 9, line 1. Applicants should note that the referral to electrode or electrodes has been repeated throughout the claims and Applicants are requested to make the appropriate corrections for consistency purposes such that no further reference shall be made with respect to this issue.

In claim 26, page 20, line 2, “said lever” should be changed to --said levers--.

In claim 26, page 20, lines 7-8, “the voltage generator” lacks antecedent basis.

In claim 27, lines 2-3, Applicants recite that the conveyor is spaced apart at decimal intervals, “for example 10 to 20 cm” and it is unclear what is meant by decimal intervals and the intended scope is unclear from the cited example.

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In claim 28, Applicants recite what the metal head is formed from by way of an example and therefore it is unclear as to the intended scope of the claim.

In claim 31, page 21, line 4, "the painting machine" lacks antecedent basis.

In claim 32, line 3, "the return shaft" lacks antecedent basis.

In claim 32, line 4, "the end skids" lack antecedent basis.

In claim 33, line 2, what is meant by the phrase "the initial part".

In claim 33, lines 5-6, it is unclear what is meant by the phrase, "optoelectronic barrier (B) or other means". What constitutes the "other means"?

In claim 33, lines 6-7, "the painting machine" lacks antecedent basis.

In claim 34, line 5, "the end skids" lack antecedent basis.

In claim 35, line 1, "said wedge-shaped guide" lacks antecedent basis.

In claim 35, line 3, what is meant by the phrase, "the corresponding conveyor". This implies that there are plural conveyors when only one has been recited.

In claim 36, line 1, "the pivot pins" lack antecedent basis.

In claim 36, lines 4, 6, and 7, "lever" should be changed to --levers-- for consistency purposes.

In claim 37, lines 1-2, "the lower run" lacks antecedent basis.

In claim 37, lines 2 and 5, "the end lever" should be changed to --end levers--.

In claim 38, line 2, what is meant by the phrase "the initial part".

In claim 40, line 2, "the bed" lacks antecedent basis.

In claim 40, line 5, "the paint chamber" lacks antecedent basis.

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In claim 43, lines 2-3, Applicants improperly recite a broad range or limitation with a narrow range or limitation. In the present instance, the claim recites the broad recitation 5 to 20 times, and the claim also recites “approximately 10 times” which is the narrower statement of the range/limitation.

In claim 44, Applicants recite the shanks having a suitable diameter, “for example 10 in the range from 5 to 15 mm” and it is unclear what is diameter is meant such that the intended scope is unclear from the cited example.

In claim 47, lines 2-3, “the polarization generator” lacks antecedent basis.

In claim 49, line 2, “the polarization source” lacks antecedent basis.

In claim 51, Applicants recite switches of the dynamic type, ... “for example small cylinder and piston units” and it is unclear what type of switch is meant such that the intended scope is unclear from the cited example.

In claim 51, line 5, “the polarization unit” should be changed to --the polarization source-- for consistency purposes.

In claim 54, line 1, “the polarization generator” lacks antecedent basis.

In claim 54, Applicants improperly recite a broad range or limitation with a narrow range or limitation. In the present instance, the claim recites the broad recitation 0 to 100kV, and the claim also recites “a useful value, for example, in the region of 60kV” which is the narrower statement of the range/limitation.

In claim 55, lines 5-6, “the corresponding return rollers” lack antecedent basis.

In claim 56, line 2, “the painting machine” lacks antecedent basis.

In claim 56, line 3, “the fixed frame” lacks antecedent basis.

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In claim 56, lines 1-2, Applicants recite an oscillation actuator, ...”of the pneumatic type, for example” and it is unclear what type of actuator is meant such that the intended scope of the claim is unclear.

In claim 57, line 2, “the painting machine” lacks antecedent basis.

In claim 58, line 2, “the painting machine” lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 4, 6-8, 19, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heine et al (US 4,836,137) in view of Millar et al (US 3,770,482).

Heine et al teach an apparatus for electrostatic coating of plate like workpieces comprising an electrostatic spray nozzle (5) and conveyor means (21, 25), characterized in that the conveyor means is made of insulating material (see col. 2, lines 18-23 and col. 3, lines 20-

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25), having a resistivity greater than that of the workpieces being coated and characterized in that an ionizing device (32) including electrical means is provided a desired distance in an isolated position beneath the workpieces while coating material (see col. 4, lines 22-28) charged to an electrical potential is fed onto the workpieces, the ionizing device emitting an electrical field with characteristics such that it charges the entire exposed surface of each workpiece (see col. 8, lines 5-16), as far as their area of contact with the conveyor means, to an electrical potential such that the coating material completely and uniformly cover exposed surfaces of the workpieces.

Heine et al are silent concerning the ionizing device including at least one electrode or that the at least one electrode is charged to an opposite electrical potential to that of the coating material being applied to the workpieces. However, in col. 6, lines 46-49, Heine et al refer to an auxiliary or supplemental electrode such that one of ordinary skill in the art would expect that the ionizing device includes at least one electrode. As for the charging of a workpiece to be oppositely charged that of the coating material, it was known in the art, at the time the invention was made, to oppositely charge a substrate relative to the coating material in order to attract the coating material to the workpiece as evidenced by Millar et al (see col. 4, lines 21-24 and lines 36-43).

In view of the teachings of Millar et al, it would have been obvious to one of ordinary skill in the art to electrostatically coat the workpieces with coating material while applying an oppositely charged electrical potential to the workpieces via the ionization device in the Heine et al apparatus in order to attract and uniformly coat the workpieces on the conveyor means with coating material.

With respect to claims 6 and 7, the ionization device of Heine et al is positioned beneath the conveyor means but the exact distance is not disclosed. However, it would have been within

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the purview of one skilled in the art to determine the appropriate distance to place the ionization device from the conveyor means in order to result in an effectively charged electrical field about the workpieces in order to provide for the uniform coating on all exposed surfaces.

With respect to claim 8, even though the combined teachings are silent concerning the use of plural electrodes, one of ordinary skill in the art would expect that plural electrodes in the ionization device would be required in instances where the size or magnitude of a given workpiece requires that a larger or greater electrical field is required for uniform coating to result.

With respect to claim 19, even though the combined teachings do not suggest a conveyor means thickness, it is within the purview of one skilled in the art to determine the appropriate thickness of the conveyor means such that the electrical field supplied by the ionization device there beneath can effectively cause the coating material to adhere to each workpiece.

With respect to claim 54, the ionization device includes at least one electrode effective to apply an effective electrical field within the claimed ranges including zero.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heine et al (US 4,836,137 and Millar et al (US 3,770,482) as applied to claims 1, 2, 4, 6-8, 19, and 54 above, and further in view of Nagasaka et al (US 4,901,666).

The teachings of Heine et al and Millar et al have been mentioned above. While Heine et al further teaches means for cleaning the conveyor means (see col. 4, lines 57 to col. 5, lines 1-6), neither Heine et al or Millar et al teach the use of suction means in relation to the conveyor means to remove excess material, however, it was known in the art, at the time the invention was

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made, to provide suction means in combination with cleaning means on a lower run of a conveyor in order to facilitate removal of excess coating material from the conveyor as evidenced by Nagasaka et al (see col. 6, lines 42-47 and lines 57-59). It would have been obvious to one of ordinary skill in the art to provide suction means as taught by Nagasaka et al in the apparatus defined by the combination above in order to facilitate cleaning of the conveyor means via removal of excess coating material from the conveyor means.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heine et al (US 4,836,137 and Millar et al (US 3,770,482) as applied to claims 1, 2, 4, 6-8, 19, and 54 above, and further in view of Hishikawa et al (US 4,244,465).

The teachings of Heine et al and Millar et al have been mentioned above. The combined teachings of Heine et al and Millar et al fail to teach or suggest the conveyor means being made from polyethylene. However, it was known in the or art, at the time the invention was made to make an electrostatically charged conveyor from an insulative material such as polyethylene to provide a durable or tough conveyor belt as evidenced by Hishikawa et al (see col. 3, lines 8-13). It would have been obvious to one of ordinary skill in the art to make the conveyor means as defined by the combination above from polyethylene in order to provide a durable conveyor with long life.

Allowable Subject Matter

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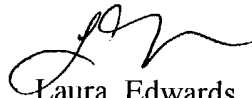
Claims 9-18, 20-53, and 55-58 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Edwards whose telephone number is (571) 272-1227. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Laura Edwards
Primary Examiner
Art Unit 1734

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December 10, 2004